Remarks

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing amendment, claims 1, 2, 4-17, 19-21, 23-31 and 33-35 are pending in the application, with 1, 15, 20, 29, 33, 34 and 35 being the independent claims. By this Amendment, Applicant seeks to amend claims 1, 2, 4, 7, 8-10, 12-17, 19-20, 29-31 and 33-35. Applicant seeks to cancel claims 3, 18, 22 and 32 without prejudice or disclaimer of the subject matter recited therein. These changes are believed to introduce no new matter, and their entry is respectfully requested. Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections Under 35 U.S.C. § 102

Claims 1, 2, 4-8, 15-17, 20, 21, 23-26, 29-31 and 33-35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Number Publication No. 2003/0053583 to Padovani *et al.* ("Padovani"). Applicant traverses the rejection because the applied reference fails to disclose, teach, or suggest all of the features of the claimed invention.

For example, independent claims 1 and 33 recites the step or feature of "*configuring a plurality of repeaters operating at a substantially identical communication frequency to coordinate transmissions of data packets and thereby function as an access point with respect to first and second mobile stations.*" Because the plurality of repeaters are operating at a single frequency, simultaneous transmission of packets could cause interference. The embodiment recited in claim 1 avoids potential interference by the steps of determining whether there will be interference between two

data packets, and transmitting the data packets at different times if interference will be present. These features are discussed, for example, in Applicant's specification in paragraphs 00188 - 00202 and are illustrated in FIGs. 23 and 24A.

Substantially similar features are also recited in independent claims 15, 20, 29, 34 and 35. For example, independent claims 15 and 34 recite the step or feature of "*receiving, at a switch, first and second data packets designated for transmission to a first mobile station and a second mobile station ... via a plurality of repeaters transmitting on a substantially identical communication frequency.*" To avoid potential interference, independent claim 15 recites the steps of detecting whether interference would occur and scheduling transmission of the data packets to avoid the interference. Similarly, independent claims 20 and 35 recite the feature of "*wherein the communication device and other communication devices coupled to the switch transmit at substantially the same communication frequency and coordinate transmissions of data packets, thereby functioning as an access point with respect to the mobile station.*" Finally, independent system claim 29 recites "*a plurality of communication devices coupled to a switch, the plurality of communication devices communicating wirelessly over substantially the same communication frequency with one or more mobile stations.*" In the system of claim 29, the plurality of communication devices coordinate transmissions of data packets to avoid interference, and function as an access point with respect to the mobile station.

Padovani does not teach or suggest these features. Padovani is directed to a "method and apparatus for high rate packet data transmission." In Padovani, a single base station sits at the center of a cell (Padovani, ¶ 0026, FIG. 1). As is common in the art, the cells do not transmit at the same frequency. (Padovani, ¶ 0013.) Specifically,

Padovani teaches that "[f]or idealized cellular system with hexagonal cell layouts and *utilizing a common frequency in every cell*, the distribution of [signal-to-noise-and-interference ratio] C/I achieved within the idealized cells can be calculated." (Padovani, ¶ 0013; emphasis added.) In Padovani, the mobile station measures the C/I of a pilot signal. (Padovani, ¶ 0041.) The measurement is sent to a base station in a cell having a single base station operating at certain frequency. (Padovani; ¶ 0026; ¶ 0013; FIG. 1) The base station may then "direct the mobile station to add or delete the base station(s) to or from its active set, respectively." (Id.) Additionally, the mobile station "selects the best base station based on a set of parameters" that can comprise "the present and previous C/I measurement and the bit-error-rate or packet-error-rate." (Padovani, ¶ 44.) The base station in Padovani, in turn, "uses rate control information from each mobile station to efficiently transmit forward link data at the highest possible rate."

The teachings of Padovani are inconsistent with the presently recited claims. Even if it were proper to equate the base stations of Padovani with the repeaters recited certain embodiments of the present claims, Padovani still does not teach or suggest a plurality of repeaters (or even base stations) operating at substantially the same frequency and functioning as a single access point. As taught by the present specification, "[s]ince the wireless components [e.g., repeaters] are operating at substantially the same frequency, *contrary to traditional 802.11 access points that operate on non-overlapping communication frequencies*, the communication bandwidth is greatly enhanced." (Specification, ¶ 00188; emphasis added.) The teachings of Padovani are consistent with traditional 802.11 access points, and therefore do not teach or suggest the feature of a plurality of repeaters or communication devices operating at

substantially the same frequency as recited in independent claims 1, 15, 20, 29, 33, 34 and 35.

It is respectfully pointed out that anticipation can only be established by a single prior art reference that discloses each and every element of the claimed invention. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440 (Fed. Cir. 1984). Therefore, since Padovani fails to teach or suggest each and every element recited in the independent claims, those claims are not anticipated by Padovani. Applicant therefore requests that the rejection of independent claims 1, 15, 20, 29, 33, 34 and 35 be reconsidered and withdrawn. Similarly, Applicant requests that the rejection of dependent claims 2, 4-8, 16-17, 21, 23-26 and 30-31 be reconsidered and withdrawn as they depend from independently patentable base claims and in view of their own respective features.

Rejections Under 35 U.S.C. § 103

Claims 3, 18, 22, and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Padovani, in view of U.S. Patent Number 5,818,829 to Raith *et al.* ("Raith"). Applicant respectfully traverses. Applicant has cancelled claims 3, 18, 22 and 32. However, because those features have been incorporated into the respective independent claims, Applicant addresses this rejection below.

The Examiner asserts that Raith "clearly discloses that one or more communication devices and the first and second mobile stations accommodate packet transmissions at a substantially identical communication frequency." (Final Action, p. 8.) Specifically, the Examiner points to Raith at column 2, lines 23-33, where Raith describes IS-54-B, which is the TDMA digital cellular system standard. That standard describes, for a single base station, twenty-one dedicated analog control channels

(ACCs) operating over a spectral width of 30 KHz at frequencies near 800 MHz. (Raith, 1:35-39.) A mobile station tunes to and monitors the strongest control channel for a particular base station. (Raith, 2:34-36.) As taught in Raith, "when moving between cells while in the idle state, the mobile station will eventually "lose" radio connection on the control channel of the "old" cell and tune to the control channel of the "new" cell. Raith thus does not teach a plurality of repeaters (or even base stations) that operate at substantially the same communication frequency and function as an access point for the one or more mobile stations. Raith thus does not overcome the deficiencies of Padovani in this regard.

To establish a *prima facie* case of obviousness, all of the claimed features must be taught or suggested by the references. As described above, Padovani in view of Raith still fails to teach every feature of independent claims 1, 15, 20, 29 and 33-35. For this reason, Applicant respectfully requests that rejection over Padovani in view of Raith be reconsidered and withdrawn.

Claims 9-10 and 12-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Padovani, in view of U.S. Patent Number 6,285,886 to Kamel *et al.* ("Kamel"). Applicant respectfully traverses. Kamel is directed to a method for controlling power for a communications system having multiple traffic channels per subscriber. Kamel does not overcome the deficiencies of Padovani. Specifically, Kamel does not teach or suggest "*configuring a plurality of repeaters operating at a substantially identical communication frequency to coordinate transmissions of data packets and thereby function as an access point with respect to first and second mobile stations*" as recited in independent claim 1. Because claims 9-10 and 12-13 depend from

independently patentable base claim 1, Applicant respectfully requests that the rejection of claims 9-10 and 12-13 be reconsidered and withdrawn.

Claim 11, stands rejected stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Padovani in view of US Patent Application Number 2003/0112778 to Lundy ("Lundy"). Applicant respectfully traverses. Lundy is directed to efficient multi-cast broadcasting for packet data systems. Lundy does not overcome the deficiencies of Padovani. Specifically, Lundy does not teach or suggest "*configuring a plurality of repeaters operating at a substantially identical communication frequency to coordinate transmissions of data packets and thereby function as an access point with respect to first and second mobile stations*" as recited in independent claim 1. Because claim 11 depends from independently patentable base claim 1, Applicant respectfully requests that the rejection of claim 11 be reconsidered and withdrawn.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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